USDA Forest Service May 19, 2014
Grand Mesa, Uncompahgre, and Gunnison National Forests

Spruce Beetle and Sudden Aspen Decline Management Response

Basic Science and Analysis Assumptions: *Fuels, fire and air quality*

Guiding Issues and Goals

Goals:

- Focus on public health and safety: Decrease fire hazard primarily related to any elevated risk of fire due to beetle infestation

The main goal and focus of any fuels and fire-related aspects of treatments in SBEADMR is to decrease fire potential which is elevated due to the effects of spruce beetle or SAD mainly near infrastructure, homes and particular management areas. This is generally accomplished through reduction in fuel loadings and arrangements, some of which may be commercial harvest combined with post-harvest fuel treatments such as pile burning. Although some comments during scoping suggested using treatments in SBEADMR to create fuel breaks, lowering the extent or severity of future wildfires is not a goal driving this project.

Overarching Assumptions

- Fire regimes in spruce are generally 200+ year fire frequencies and high severity, stand replacing fires
- Fire regimes in aspen are less understood. Some persistent aspen stands may be influenced by fire and some may not be. When aspen occurs mixed in with a vegetation type with a frequent, low severity fire regime, aspen may regenerate after fires and persist in this vegetation type. When the fire regime of the vegetation type in which aspen is mixed tend to be have more large, infrequent and stand-replacing fires, then aspen takes on a more seral character, and may be present after fire, and then may be replaced by other species.
- In the subalpine zone of the Rocky Mountains, fires are driven more by climate than fuels. This means that despite stand conditions and treatments, when extreme fire weather occurs, fires will likely burn many acres. Some of the best tools to prevent loss of structures in this fire regime may be treating fuels in the immediate vicinity of homes, and preparing structures to be 'Firewise.'

Effects on fuels and potential fire behavior will be guided by design features in many categories (silviculture, soils, wildlife, slash piles). According to Forest Plan standards and guidelines, fuels in Management Areas 1A, 1B, 1D (developed recreations sites, ski areas, utility corridors) will be treated

such that most potential wildfires would burn with less than 4 foot flame lengths. Pile burning (smoke) restrictions from the Colorado Department of Public Health and Environment will be followed. The air quality analysis will describe how individual implementation projects will comply with requirements set forth in the federal Clean Air Act and Colorado State air quality laws and regulations.

Methods – Analysis Approach

The methods for the fuels and air quality reports will be largely be discussed in a qualitative manner, with some quantitative examples. Very little quantitative data on surface fuels exists, and when combined with the error inherent in fire behavior and air quality modeling along with the unknowns in where treatments will spatially, a quantitative approach would not only be weak, but could be misleading.

Definitions - Firewise Home:
http://www.firewise.org/~/media/Firewise/Files/Pdfs/Booklets%20and%20Brochures/HaveAFirewiseHome.pdf